



# STUDENT PLACEMENT PREDICTION USING MACHINE LEARNING

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## ABSTRACT

All students dream to obtain a job offer in their hands before they leave their college. A placement chance predictor helps students to have an idea about where they stand and what to be done to obtain a good placement. A placement predictor is a system that could predict the possibility or the type of company a pre-final year student have chances to be placed. Thus a prediction system could help in the academic planning of an institution for future years. With the emergence of data mining and machine learning, many predictor models were introduced by analyzing the previous year student's dataset. This paper presents a literature survey on different placement prediction models for pre-final year engineering graduate students.

According to statistics 1.5 million engineers are graduating each year in India. The demand and need for qualified graduates in field of IT industry is rising day by day. But most of the students are unaware about the needs of the IT industry. The number of the student graduates who satisfies the requirements and quality of a company is very low. Placements are one of the biggest challenge faced by a student in the lifetime. It is the responsibility of the institutions to provide maximum placement chance to its students. Also the placement cell and teachers of an institute should take proper steps in order to produce a set of students suitable for each company's requirements. A placement prediction system can be used to identify the capability of a particular student for the specified job.

All companies in the IT sector spends a large amount of its total capital in recruiting the students to its company. Thus it is necessary to find an alternative process of filtering to reduce the capital cost that is used for this process. Effective filtering of students could be performed by applying various data mining and machine learning tools on the student details. Luan [1] defined the meaning of data mining in the field of education as a method of identifying, discovering and capturing the unknown similarities or patterns from a dataset by using an ensemble combination of various analytical approaches. It is possible for an educational institute to exploit this data mining feature to figure out the recruitment policy of a company from previous year placement statistics and student dataset. So the placement cell of the institution could prepare a placement

## INTRODUCTION

### EXISTING SYSTEM:

According to statistics 1.5 million engineers are graduating each year in India. The demand and need for qualified graduates in field of IT industry is rising day by day.

- But most of the students are unaware about the needs of the IT industry.
- The number of the student graduates who satisfies the requirements and quality of a company is very low. Placements are one of the biggest challenges faced by a student in the lifetime.

### Drawbacks:

- There is no module for Transmission of only Meaningful Data so, its causes to extra storage and processing costs.
- There is no Edge Analytics for respected application.

### PROPOSED SYSTEM:

- All companies in the IT sector spend a large amount of its total capital in recruiting the students to its company.
- Thus it is necessary to find an alternative process of filtering to reduce the capital cost that is used for this process. Effective filtering of students could be performed by applying various machine learning tools

on the student details.

## LITERATURE SURVEY

- [1] J. Luan, "Data mining and its applications in higher education", New Dir. Inst. Res, 113:17–36, 2002.
- [2] A.S. Sharma, S. Prince, S. Kapoor, K. Kumar, "PPS – Placement prediction system using logistic regression", IEEE international conference on MOOC, innovation and technology in education (MITE), pp 337-341,2014.
- [3] Thangavel, S.Bkaratki, P. Sankar, "Student placement analyzer: A recommendation system using machine learning", Advances in Computing and Communication Systems (ICACCS-2017) International Conference on. IEEE, 2017.
- [4] R. Sangha, A. Satras, L. Swamy, G. Deshmukh, "Students Placement Eligibility Prediction using Fuzzy Approach", International Journal of Engineering and Techniques , Volume 2, Issue 6, Dec 2016.

## MODULE DETAILS

### PREDICTION DECISION TREE ALGORITHM

This paper proposes a model that predicts the probability of placement of a student in a company using ID3 decision tree algorithm. This system analyses the given dataset to identify the most relevant parameters required for placement prediction from the student dataset. Entropy and Information gain values of all parameters in the dataset is measured and the parameter with suitable measurement value is selected as split variable while building the decision tree. The Weka Tool generates an optimized decision tree with leaves representing the placement prediction chance of the student. The dataset comprises of marks obtained in secondary examinations, graduation grade points, arrear history and department type, details of various skills such as programming skill and communication skill, internships attended and details regarding interests in future studies.

### PREDICTION USING LOGISTIC REGRESSION

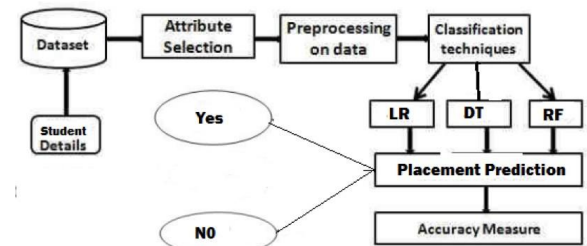
Logistic regression is used to predict the class (or category) of individuals based on one or multiple predictor variables (x). It is used to model a binary outcome, that is a variable, which can have only two possible values: 0 or 1, yes or no, diseased or non-diseased.

### PREDICTION USING RANDOM FOREST ALGORITHM

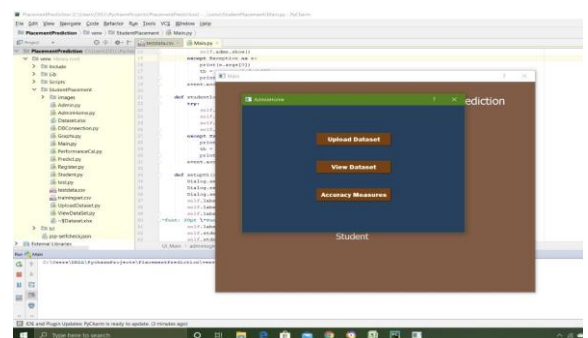
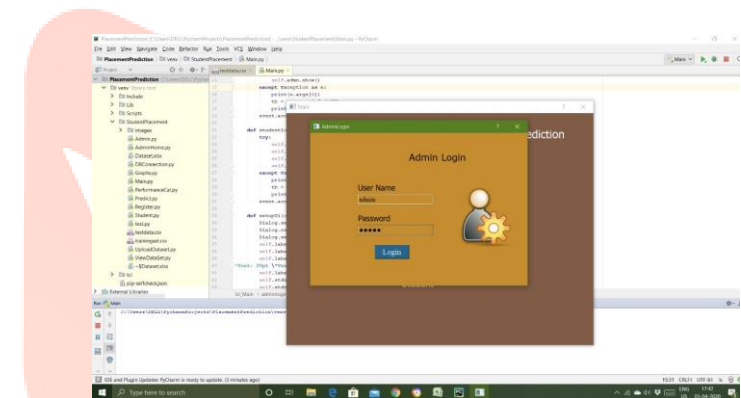
This paper [7] proposes a method for predicting the employability status of the student using Random forest algorithm. The dataset for the work consists of scores collected from the students by conducting a test for them in the areas concentrated for recruitment process. Random Forest is an ensemble prediction method by aggregating the outcomes of the individual decision trees [8]. The accuracy of the model trained using this algorithm can be improved by tuning the algorithm

parameters such as number of trees and number of the attributes that is selected randomly. A model is created using Random forest that can predict the likelihood of a student to be placed in a company. From the trained model the system can display the name of companies a student have chances to be placed based on their obtained scores. The system can also

display a list of company seeking skills to be incurred by the students who are attending the placement process.



## RESULTS



pp. 0975-8887, December 2014.

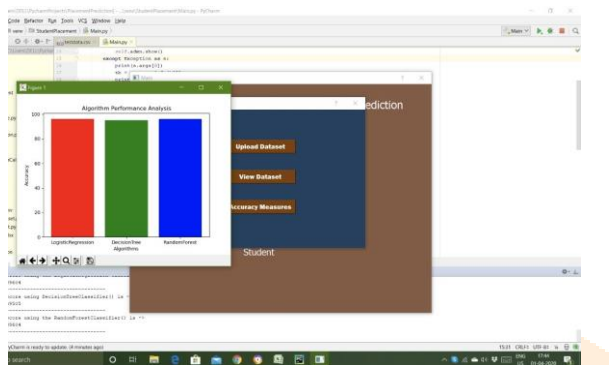
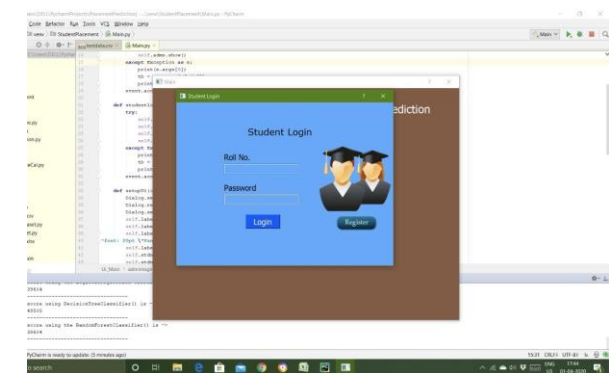
[6] Bharambe, Yogesh, “Assessing employability of students using data mining techniques”, Advances in Computing, Communications and Informatics (ICACCI), 2017 International

[7] Pruthi, P. Bhatia, “Application of Data Mining in Predicting Placement of Students”, International Conference on Green Computing and Internet of Things (ICGCIoT), 2015.

[8] P. Guleria, M. Sood, “Predicting Student Placements Using Bayesian Classification”, International conference on Image Information Processing, IEEE Computer Society, 2015, p

[9] Shreyas Harinath 1, Aksha Prasad 2, Suma H S3, “ Student placement prediction using Machine learning.”

[10] Bharambe, Yogesh, “Assessing employability of students using data mining techniques”, Advances in Computing, Communications and Informatics (ICACCI), 2017 International Conference on. IEEE



## CONCLUSION AND FUTURE WORK

A detailed study was conducted based on different prediction models. From the study it is clear that the student dataset containing academic and placement details are a potential source for predicting the future placement chances. This prediction can enlighten students to identify their capabilities and improve accordingly. This system also helps in the academic planning of an institution to prepare proper strategies and improve the placement statistics for the future

It would of great help if we revise and update our curriculum and other extra activities for each semester in accordance with the public, private and government sector requirement. We can also predict which company picks which category of students. Make a list of skill a particular company looking for, then on the basis of that we can train our student. These traits will make prediction process more accurate.

## BIBLIOGRAPHY

[1] J. Luan, “Data mining and its applications in higher education”, New Dir. Inst. Res, 113:17–36, 2002.

[2] A.S. Sharma, S. Prince, S. Kapoor, K. Kumar, “PPS – Placement prediction system using logistic regression”, IEEE international conference on MOOC, innovation and technology in education (MITE), pp 337-341,2014.

[3] R. Sangha, A. Satras, L. Swamy, G. Deshmukh, “Students Placement Eligibility Prediction using Fuzzy Approach”, International Journal of Engineering and Techniques , Volume 2, Issue 6, Dec 2016.

[4] H. Bhatt, S. Mehta, L. R. D'mello, “Use of ID3 Decision Tree Algorithm for Placement Prediction”, International Journal of Computer Science and Information Technologies (IJCSIT), vol. 6, pp. 4785-4789, 2015.

[5] T. Jeevalatha, N. Ananthi, D. Saravana Kumar, Performance analysis of undergraduate students placement selection using Decision Tree Algorithms”, International Journal of Computer Applications, vol. 108,

